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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/706,324

11/12/2003

Vincent R. Farnsworth

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7590

02/22/2005

Polit & Erickson, LLC
Suite 520
3333 Warrentville Road
Lisle, IL 60532

EXAMINER

FERNANDEZ, KALIMAH

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 02/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

CT

Office Action Summary	Application No.	Applicant(s)	
	10/706,324	FARNSWORTH, VINCENT R.	
	Examiner	Art Unit	
	Kalimah Fernandez	2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6,13-16, and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 5,886,346 issued to Makarov.
3. Makarov discloses a mass analysis system (col.2, lines 4-14).
4. Makarov discloses an ion injector (col.2, lines 57-64).
5. Makarov discloses an ion selection chamber having an outer electrode (21).
6. Makarov discloses a plurality of inner electrode (22,23,24).
7. Makarov discloses a power supply system (see for example col.3, lines 29-32).
8. Makarov discloses ion separation by an oscillating voltage based on the orbital periods of the ions (see for example col.4, lines 22-51).

9. Here, all functional language following the phrase “adapted to” does not constitute a positive limitation in any patentable sense since the recitation only requires the recited element(s) have the ability to function as described.

10. As per claim 2, Makarov discloses the power supply system operates to initially direct the ions into a stable trajectory in the interstitial region (col.4, lines 22-57).

11. As per claims 3-4, Makarov discloses the oscillating voltage provided by the power supply system destabilizes the orbital trajectory of ions of non-selected mass-to-charge ratios while concurrently maintaining ions of the selected mass-to-charge ratio in a stable orbital trajectory (col.4, lines 44-57).

12. As per claims 5-6, Makarov discloses an ion detector (18).

13. As per claim 13, Makarov discloses generating ions via source (11); directing the ions into a stable trajectory within a substantially homogenous electric field (see figs. 4-5); and introducing perturbations of the substantially homogenous electric field so that only ions of the predetermined mass-to-charge ratio remain in a stable trajectory within the electric field (col.4, lines 22-31).

14. As per claim 14, Makarov discloses altering the electric (see for example col.4, lines 23-49).

15. As per claim 15, Makarov discloses a detecting step (col.5, lines 6-10).

16. As per claims 16, Makarov discloses periodic perturbations (see for example col.2, lines 10-14).

17. As per claims 18 and 22-23, Makarov discloses a circular stable trajectory (see fig. 5).

18. As per claim 19, Makarov discloses generating ions via source (11); directing ions into an interstitial region formed in a concentric electrode arrangement (see for example col.3, lines 1-4); providing electrical power to the concentric electrode arrangement to generate a generally homogenous electric field (see figs. 4-5); and varying the electric power to the concentric electrode to introduce perturbations in the homogenous field (col.4, lines 22-31).

19. As per claims 20-21, Makarov discloses altering the electric (see for example col.4, lines 23-49) and a detecting step (col.5, lines 6-10).

20. Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 3,925,663 issued to Hiller et al.

21. Hiller et al disclose a first, second, and third electrode having an arcuate gap (figs. 4a-b).
22. Hiller et al disclose a power supply for supplying a DC voltage (see for example col.3, lines 14-21).

Claim Rejections - 35 USC § 103

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makarov.
25. Makarov discloses the claimed invention, but does not explicitly teach a DC switched voltage.
26. However, an ordinary artisan would have found it obvious to use a DC switched voltage from a reasonable reading of Makarov. Makarov teach voltage switching (see for example col.4, lines 44-49).

27. An artisan would have obvious motivation to uses a DC switched voltage because DC voltages are widely used, cost-effective, and easy-to-use.

28. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makarov as applied to claim 1 above, and further in view of US Pat No 3,925,663 issued to Hiller et al.

29. Makarov discloses the claimed invention except for arcuate gap disposed along a length thereof.

30. Hiller et al disclose the desirability of an arcuate gap disposed along a length of electrodes (see for example col.3, lines 3-22).

31. It would have been obvious to an ordinary artisan to combine Makarov and Hiller et al because Hiller et al disclose the advantageous ability to sample multiple inlets (col.3, lines 4-23).

Conclusion

32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Pat No 3,970,849 issued to Bringers et al; US Pat No 4,982,088 issued to Whitecap et al; US Pat No 4,208,582 issued to Arnos et al; US Pub. 2002/0079444 issued to Senko; US Pat No

3,239,662 issued to Nobler; US Pat No 5,726,448 issued to Smith et al; and US Pat No 6,570,151 issued to Grossman's et al are considered relevant to the claimed invention.

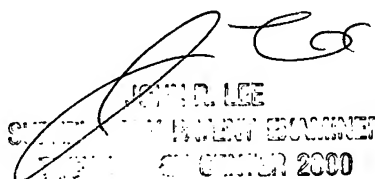
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalimah Fernandez whose telephone number is 571-272-2470. The examiner can normally be reached on Mon-Tues 6:30-3:30; Wed-Thurs 8-5 and Fri.9am-6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KF


J. LEE
SENIOR PATENT EXAMINER
OCTOBER 2000